Soft-shell Clam Survey Projections

Flat: Basin Cove   **Area (ac):** 3.5   **Percent Legal:** #DIV/0!
Town: Harpswell   **Density (bu/a):** 0.00   **Proj. Harvest (bu):** 0
Date: 9/18/2018   **Crop (bu):** 0

Harvest Parameters
    Commercial

Efficiency:	0.70
Effort (d.):	200
Catch (bu):	1.5

    Recreational

Efficiency:	0.33
Effort (d.):	12
Catch (bu):	0.25

Commercial Licenses: 0
-or-
Recreational Licenses: 0

LICENSE NUMBERS FORMULA*

No. of License = (Projected Harvest x Digger Efficiency) / (Effort in Days x Average Catch in Bushels)

Projected Harvest = Legal Clam Bushels + (Sublegal Clam Bushels x Rate of Entry)

Rate of Entry = Survival Rate x Yearly Proportion of Sublegals Reaching Legal Size

Estimated Survival Rate = 80%

Estimated Yearly Proportion Of Sublegals Reaching Legal Size = 50%

Developed by Chris Heinig of MER Associates

Survey Results

TOWN: Harpswell
FLAT: Basin Cove (Lower)
CREW: Steve Welsh/Ray McIntire

DATE: 9/18/18

PLOT SIZE: 1' x 2'
PLOT INTERVAL: 100'
PLOTS: 14

ACRES: 4.5

Length (mm)	# of Clams	% Number
10-14	0	#DIV/0!
15-19	0	#DIV/0!
20-24	0	#DIV/0!
25-29	0	#DIV/0!
30-34	0	#DIV/0!
35-39	0	#DIV/0!
40-44	0	#DIV/0!
45-49	0	#DIV/0!
50-54	0	#DIV/0!
55-59	0	#DIV/0!
60-64	0	#DIV/0!
65-69	0	#DIV/0!
70-74	0	#DIV/0!
75-79	0	#DIV/0!
80-84	0	#DIV/0!
85-89	0	#DIV/0!
90-94	0	#DIV/0!
95-99	0	#DIV/0!
100	0	#DIV/0!

Total # of Clams	0
Total # of Clams > 50.8mm	0
% of clams > 50.8mm	#DIV/0!
Total Average Bu./Acre	0.00
Total Avg. Bu./Acre > 50.8mm	0.00
Total standing crop (bu)	0
Total standing crop > 50.8mm	0
% of crop > 50.8mm	#DIV/0!

Conversion Inches to Millimeters
.5" = 12.7 mm
1" = 25.4mm
2" = 50.8 mm
2.5' = 63.5 mm
3" = 76.2 mm
3.5" = 88.9 mm
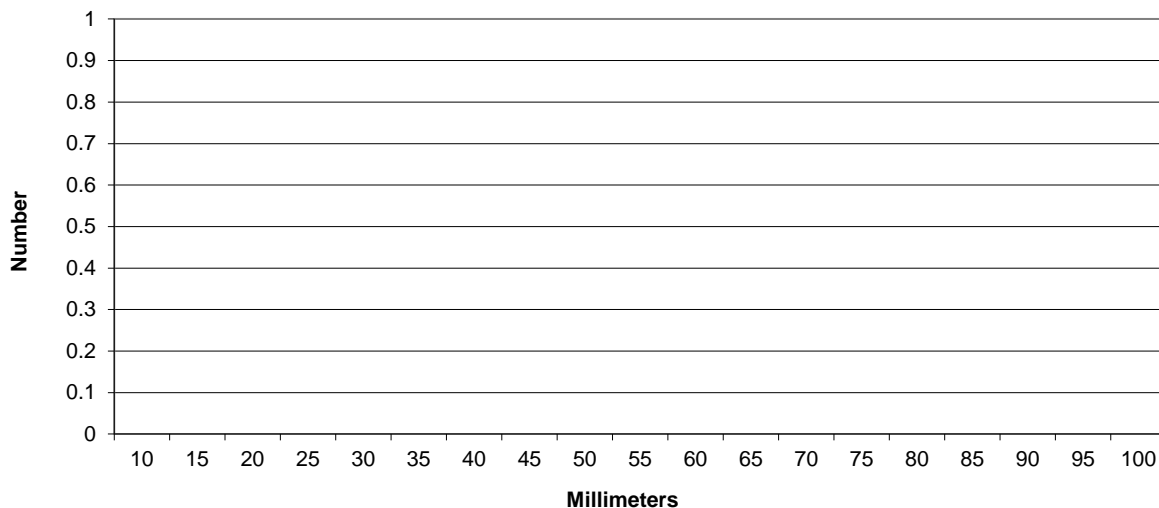
2004 Survey

Soft-shell Clam Survey Projections

Flat: Big Indian	**Area (ac):** 10.0	**Percent Legal:** 84.26%
Town: Harpswell	**Density (bu/a):** 66.28	**Proj. Harvest (bu):** 600
Date: 10/4/2018	**Crop (bu):** 663	

Harvest Parameters
    Commercial

Efficiency:	0.70
Effort (d.):	200
Catch (bu):	1.5

    Recreational

Efficiency:	0.33
Effort (d.):	12
Catch (bu):	0.25

Commercial Licenses: 1
-or-
Recreational Licenses: 66

LICENSE NUMBERS FORMULA*

No. of License = (Projected Harvest x Digger Efficiency) / (Effort in Days x Average Catch in Bushels)

Projected Harvest = Legal Clam Bushels + (Sublegal Clam Bushels x Rate of Entry)

Rate of Entry = Survival Rate x Yearly Proportion of Sublegals Reaching Legal Size

Estimated Survival Rate = 80%

Estimated Yearly Proportion Of Sublegals Reaching Legal Size = 50%

Developed by Chris Heinig of MER Associates

Survey Results

TOWN: Harpswell
FLAT: Big Indian
CREW: Steve Welsh / Paul Plummer

DATE: 10/4/18

PLOT SIZE: 1' x 2'
PLOT INTERVAL: 100'
PLOTS: 56

ACRES: 10

Length (mm)	# of Clams	% Number
10-14	0	0.0%
15-19	0	0.0%
20-24	16	8.0%
25-29	15	7.5%
30-34	17	8.5%
35-39	7	3.5%
40-44	9	4.5%
45-49	18	9.0%
50-54	12	6.0%
55-59	24	12.1%
60-64	38	19.1%
65-69	18	9.0%
70-74	11	5.5%
75-79	10	5.0%
80-84	1	0.5%
85-89	3	1.5%
90-94	0	0.0%
95-99	0	0.0%
100	0	0.0%

Total # of Clams	199
Total # of Clams > 50.8mm	105
% of clams > 50.8mm	52.76%
Total Average Bu./Acre	66.28
Total Avg. Bu./Acre > 50.8mm	55.85
Total standing crop (bu)	663
Total standing crop > 50.8mm	559
% of crop > 50.8mm	84.26%

Conversion Inches to Millimeters

.5" = 12.7 mm
1" = 25.4mm
2" = 50.8 mm
2.5' = 63.5 mm
3" = 76.2 mm
3.5" = 88.9 mm
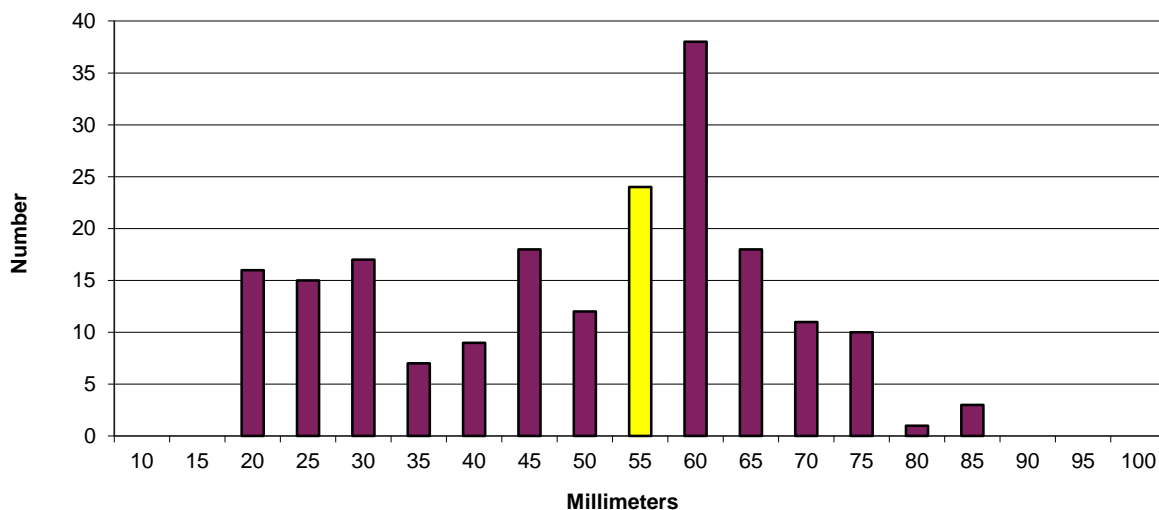
2004 Survey

Soft-shell Clam Survey Projections

Flat:	Birch Island	**Area (ac):**	20.0	**Percent Legal:**	47.65%
Town:	Harpswell	**Density (bu/a):**	121.45	**Proj. Harvest (bu):**	1,666
Date:	9/6/2018	**Crop (bu):**	2,429		

Harvest Parameters
  Commercial

Efficiency:	0.70
Effort (d.):	200
Catch (bu):	1.5

  Recreational

Efficiency:	0.33
Effort (d.):	12
Catch (bu):	0.25

Commercial Licenses:	4
-or-	
Recreational Licenses:	183

LICENSE NUMBERS FORMULA*

No. of License = (Projected Harvest x Digger Efficiency) / (Effort in Days x Average Catch in Bushels)

Projected Harvest = Legal Clam Bushels + (Sublegal Clam Bushels x Rate of Entry)

Rate of Entry = Survival Rate x Yearly Proportion of Sublegals Reaching Legal Size

Estimated Survival Rate = 80%

Estimated Yearly Proportion Of Sublegals Reaching Legal Size = 50%

Developed by Chris Heinig of MER Associates

Survey Results

TOWN: Harpswell
FLAT: Birch Island
CREW: Steve Welsh / Ray McIntire

DATE: 9/6/18

PLOT SIZE: 1' x 2'
PLOT INTERVAL: 100'
PLOTS: 50

ACRES: 20

Length (mm)	# of Clams	% Number
10-14	25	4.0%
15-19	0	0.0%
20-24	117	18.6%
25-29	60	9.6%
30-34	45	7.2%
35-39	42	6.7%
40-44	87	13.9%
45-49	34	5.4%
50-54	103	16.4%
55-59	55	8.8%
60-64	31	4.9%
65-69	18	2.9%
70-74	6	1.0%
75-79	2	0.3%
80-84	3	0.5%
85-89	0	0.0%
90-94	0	0.0%
95-99	0	0.0%
100	0	0.0%

Total # of Clams	628
Total # of Clams > 50.8mm	115
% of clams > 50.8mm	18.31%
Total Average Bu./Acre	121.45
Total Avg. Bu./Acre > 50.8mm	57.86
Total standing crop (bu)	2429
Total standing crop > 50.8mm	1157
% of crop > 50.8mm	47.65%

Conversion Inches to Millimeters
.5" = 12.7 mm
1" = 25.4mm
2" = 50.8 mm
2.5' = 63.5 mm
3" = 76.2 mm
3.5" = 88.9 mm
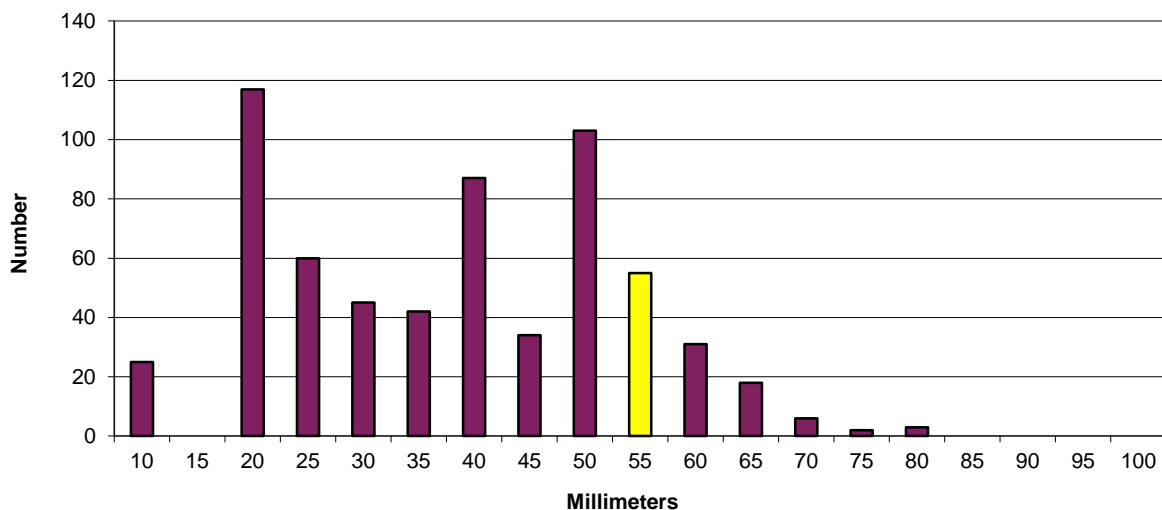
2004 Survey

Soft-shell Clam Survey Projections

Flat: Brickyard Cove   **Area (ac):** 5.3   **Percent Legal:** 46.95%
Town: Harpswell   **Density (bu/a):** 110.64   **Proj. Harvest (bu):** 400
Date: 9/20/2018   **Crop (bu):** 586

Harvest Parameters
    Commercial

Efficiency:	0.70
Effort (d.):	200
Catch (bu):	1.5

    Recreational

Efficiency:	0.33
Effort (d.):	12
Catch (bu):	0.25

Commercial Licenses: 1
-or-
Recreational Licenses: 44

LICENSE NUMBERS FORMULA*

No. of License = (Projected Harvest x Digger Efficiency) / (Effort in Days x Average Catch in Bushels)

Projected Harvest = Legal Clam Bushels + (Sublegal Clam Bushels x Rate of Entry)

Rate of Entry = Survival Rate x Yearly Proportion of Sublegals Reaching Legal Size

Estimated Survival Rate = 80%

Estimated Yearly Proportion Of Sublegals Reaching Legal Size = 50%

Developed by Chris Heinig of MER Associates

Survey Results

TOWN: Harpswell
FLAT: Brickyard Cove
CREW: Steve Welsh / Ray McIntire

DATE: 9/20/18

PLOT SIZE: 1' x 2'
PLOT INTERVAL: 100'
PLOTS: 21

ACRES: 5.3

Length (mm)	# of Clams	% Number
10-14	1	0.5%
15-19	0	0.0%
20-24	10	4.7%
25-29	2	0.9%
30-34	24	11.3%
35-39	32	15.1%
40-44	50	23.6%
45-49	29	13.7%
50-54	18	8.5%
55-59	19	9.0%
60-64	21	9.9%
65-69	4	1.9%
70-74	2	0.9%
75-79	0	0.0%
80-84	0	0.0%
85-89	0	0.0%
90-94	0	0.0%
95-99	0	0.0%
100	0	0.0%

Total # of Clams	212
Total # of Clams > 50.8mm	46
% of clams > 50.8mm	21.70%
Total Average Bu./Acre	110.64
Total Avg. Bu./Acre > 50.8mm	51.95
Total standing crop (bu)	586
Total standing crop > 50.8mm	275
% of crop > 50.8mm	46.95%

Conversion Inches to Millimeters
.5" = 12.7 mm
1" = 25.4mm
2" = 50.8 mm
2.5' = 63.5 mm
3" = 76.2 mm
3.5" = 88.9 mm
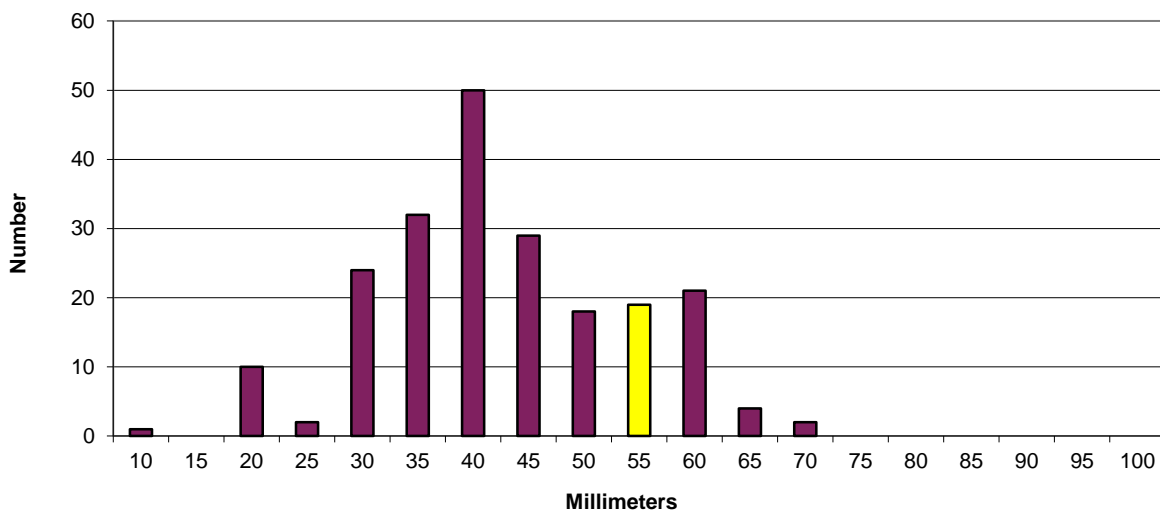
Soft-shell Clam Survey Projections

Flat: Crow Island   **Area (ac):** 3.0   **Percent Legal:** 22.27%
Town: Harpswell   **Density (bu/a):** 80.50   **Proj. Harvest (bu):** 129
Date: 8/21/2018   **Crop (bu):** 242

Harvest Parameters
    Commercial

Efficiency:	0.70
Effort (d.):	200
Catch (bu):	1.5

    Recreational

Efficiency:	0.33
Effort (d.):	12
Catch (bu):	0.25

Commercial Licenses: 0
-or-
Recreational Licenses: 14

LICENSE NUMBERS FORMULA*

No. of License = (Projected Harvest x Digger Efficiency) / (Effort in Days x Average Catch in Bushels)

Projected Harvest = Legal Clam Bushels + (Sublegal Clam Bushels x Rate of Entry)

Rate of Entry = Survival Rate x Yearly Proportion of Sublegals Reaching Legal Size

Estimated Survival Rate = 80%

Estimated Yearly Proportion Of Sublegals Reaching Legal Size = 50%

Developed by Chris Heinig of MER Associates

Survey Results

TOWN: Harpswell
FLAT: Crow Island
CREW: Steve Welsh / Ray McIntire

DATE: 8/21/18

PLOT SIZE: 1' x 2'
PLOT INTERVAL: 100'
PLOTS: 16

ACRES: 3.0

Length (mm)	# of Clams	% Number
10-14	0	0.0%
15-19	0	0.0%
20-24	67	34.5%
25-29	0	0.0%
30-34	30	15.5%
35-39	0	0.0%
40-44	58	29.9%
45-49	0	0.0%
50-54	26	13.4%
55-59	9	4.6%
60-64	2	1.0%
65-69	2	1.0%
70-74	0	0.0%
75-79	0	0.0%
80-84	0	0.0%
85-89	0	0.0%
90-94	0	0.0%
95-99	0	0.0%
100	0	0.0%

Total # of Clams	194
Total # of Clams > 50.8mm	13
% of clams > 50.8mm	6.70%
Total Average Bu./Acre	80.50
Total Avg. Bu./Acre > 50.8mm	17.93
Total standing crop (bu)	242
Total standing crop > 50.8mm	54
% of crop > 50.8mm	22.27%

Conversion Inches to Millimeters
.5" = 12.7 mm
1" = 25.4mm
2" = 50.8 mm
2.5' = 63.5 mm
3" = 76.2 mm
3.5" = 88.9 mm
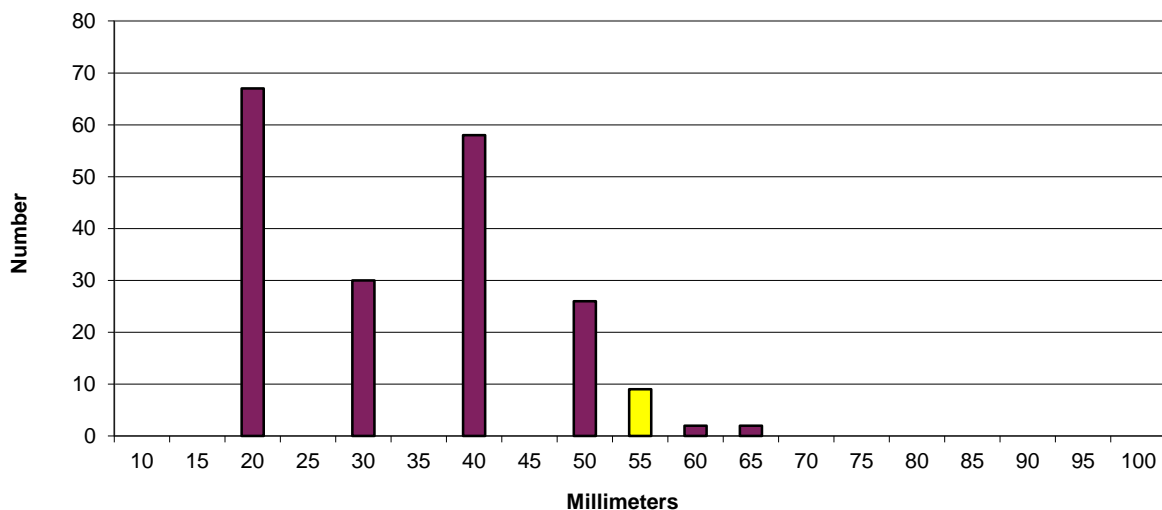
2004 Survey

Soft-shell Clam Survey Projections

Flat: Diamond Cove   **Area (ac):** 3.5   **Percent Legal:** 42.68%
Town: Harpswell   **Density (bu/a):** 274.42   **Proj. Harvest (bu):** 630
Date: 9/20/2018   **Crop (bu):** 960

Harvest Parameters
    Commercial

Efficiency:	0.70
Effort (d.):	200
Catch (bu):	1.5

    Recreational

Efficiency:	0.33
Effort (d.):	12
Catch (bu):	0.25

Commercial Licenses: 1
-or-
Recreational Licenses: 69

LICENSE NUMBERS FORMULA*

No. of License = (Projected Harvest x Digger Efficiency) / (Effort in Days x Average Catch in Bushels)

Projected Harvest = Legal Clam Bushels + (Sublegal Clam Bushels x Rate of Entry)

Rate of Entry = Survival Rate x Yearly Proportion of Sublegals Reaching Legal Size

Estimated Survival Rate = 80%

Estimated Yearly Proportion Of Sublegals Reaching Legal Size = 50%

Developed by Chris Heinig of MER Associates

Survey Results

TOWN: Harpswell

FLAT: Diamond Cove

CREW: Steve Welsh/Ray McIntire

DATE: 9/20/18

PLOT SIZE: 1' x 2'

PLOT INTERVAL: 100'

PLOTS: 10

ACRES: 3.5

Length (mm)	# of Clams	% Number
10-14	0	0.0%
15-19	0	0.0%
20-24	6	2.8%
25-29	0	0.0%
30-34	25	11.6%
35-39	6	2.8%
40-44	50	23.1%
45-49	41	19.0%
50-54	42	19.4%
55-59	21	9.7%
60-64	11	5.1%
65-69	5	2.3%
70-74	9	4.2%
75-79	0	0.0%
80-84	0	0.0%
85-89	0	0.0%
90-94	0	0.0%
95-99	0	0.0%
100	0	0.0%

Total # of Clams	216
Total # of Clams > 50.8mm	46
% of clams > 50.8mm	21.30%
Total Average Bu./Acre	274.42
Total Avg. Bu./Acre > 50.8mm	117.12
Total standing crop (bu)	960
Total standing crop > 50.8mm	410
% of crop > 50.8mm	42.68%

Conversion Inches to Millimeters

.5" = 12.7 mm

1" = 25.4mm

2" = 50.8 mm

2.5' = 63.5 mm

3" = 76.2 mm

3.5" = 88.9 mm
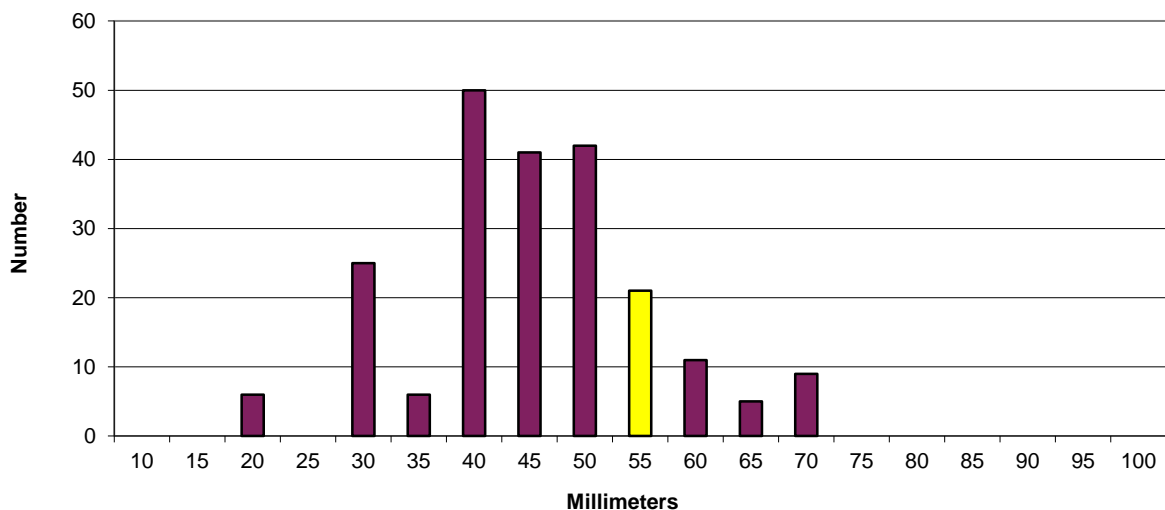
2004 Survey

Soft-shell Clam Survey Projections

Flat: Doughy Cove   **Area (ac):** 29.0   **Percent Legal:** 61.57%
Town: Harpswell   **Density (bu/a):** 52.95   **Proj. Harvest (bu):** 1,182
Date: 9/5/2018   **Crop (bu):** 1,536

Harvest Parameters
    Commercial

Efficiency:	0.70
Effort (d.):	200
Catch (bu):	1.5

    Recreational

Efficiency:	0.33
Effort (d.):	8
Catch (bu):	0.25

Commercial Licenses: 3
-or-
Recreational Licenses: 195

LICENSE NUMBERS FORMULA*

No. of License = (Projected Harvest x Digger Efficiency) / (Effort in Days x Average Catch in Bushels)

Projected Harvest = Legal Clam Bushels + (Sublegal Clam Bushels x Rate of Entry)

Rate of Entry = Survival Rate x Yearly Proportion of Sublegals Reaching Legal Size

Estimated Survival Rate = 80%

Estimated Yearly Proportion Of Sublegals Reaching Legal Size = 50%

Developed by Chris Heinig of MER Associates

Survey Results

TOWN: Harpswell
FLAT: Doughty Cove
CREW: Steve Welsh / Ray McIntire

DATE: 9/5/18

PLOT SIZE: 1' x 2'
PLOT INTERVAL: 100'
Plots: 90

Acres: 29

Length (mm)	# of Clams	% Number
10-14	4	1.4%
15-19	0	0.0%
20-24	16	5.5%
25-29	0	0.0%
30-34	26	9.0%
35-39	9	3.1%
40-44	44	15.2%
45-49	19	6.6%
50-54	77	26.6%
55-59	6	2.1%
60-64	54	18.7%
65-69	7	2.4%
70-74	15	5.2%
75-79	3	1.0%
80-84	6	2.1%
85-89	3	1.0%
90-94	0	0.0%
95-99	0	0.0%
100	0	0.0%

Total # of Clams	289
Total # of Clams > 50.8mm	94
% of clams > 50.8mm	32.53%
Total Average Bu./Acre	52.95
Total Avg. Bu./Acre > 50.8mm	32.60
Total standing crop (bu)	1536
Total standing crop > 50.8mm	945
% of crop > 50.8mm	61.57%

Conversion Inches to Millimeters
.5" = 12.7 mm
1" = 25.4mm
2" = 50.8 mm
2.5' = 63.5 mm
3" = 76.2 mm
3.5" = 88.9 mm
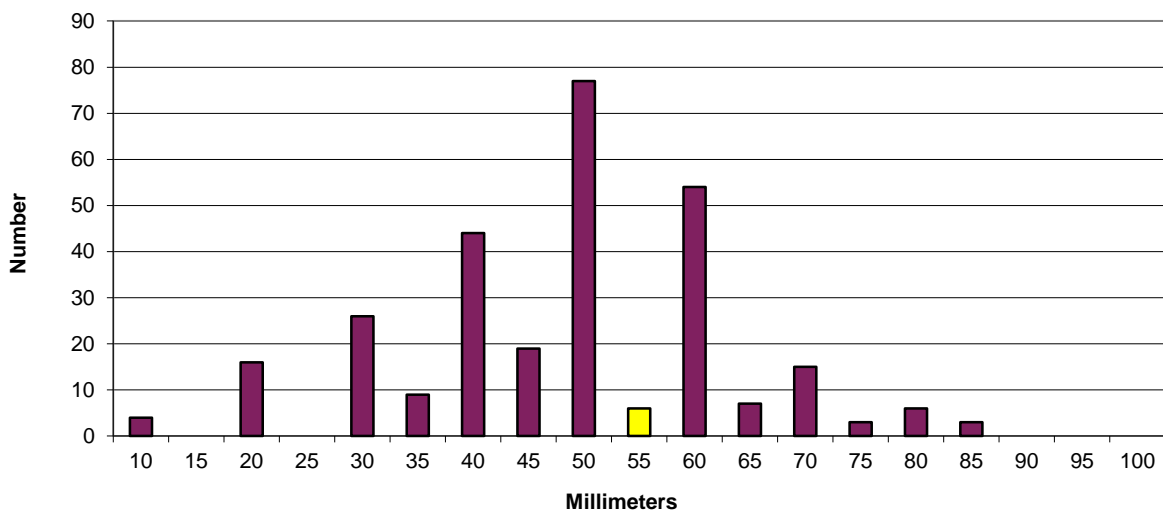
2004 Survey

Soft-shell Clam Survey Projections

Flat: Gurnet Landing	**Area (ac):** 3.0	**Percent Legal:** 65.51%
Town: Harpswell	**Density (bu/a):** 56.48	**Proj. Harvest (bu):** 134
Date: 9/27/2018	**Crop (bu):** 169	

Harvest Parameters
Commercial

Efficiency:	0.70
Effort (d.):	200
Catch (bu):	1.5

Recreational

Efficiency:	0.33
Effort (d.):	12
Catch (bu):	0.25

Commercial Licenses:	0
-or-	
Recreational Licenses:	15

LICENSE NUMBERS FORMULA*

No. of License = (Projected Harvest x Digger Efficiency) / (Effort in Days x Average Catch in Bushels)

Projected Harvest = Legal Clam Bushels + (Sublegal Clam Bushels x Rate of Entry)

Rate of Entry = Survival Rate x Yearly Proportion of Sublegals Reaching Legal Size

Estimated Survival Rate = 80%

Estimated Yearly Proportion Of Sublegals Reaching Legal Size = 50%

Developed by Chris Heinig of MER Associates

Survey Results

TOWN: Harpswell
FLAT: Gurnet Landing
CREW: Steve Welsh / Ray McIntire

DATE: 9/27/18

PLOT SIZE: 1' x 2'
PLOT INTERVAL: 50'
PLOTS: 18

ACRES: 3

Length (mm)	# of Clams	% Number
10-14	2	2.3%
15-19	6	7.0%
20-24	9	10.5%
25-29	0	0.0%
30-34	10	11.6%
35-39	6	7.0%
40-44	11	12.8%
45-49	5	5.8%
50-54	9	10.5%
55-59	11	12.8%
60-64	15	17.4%
65-69	1	1.2%
70-74	0	0.0%
75-79	1	1.2%
80-84	0	0.0%
85-89	0	0.0%
90-94	0	0.0%
95-99	0	0.0%
100	0	0.0%

Total # of Clams	86
Total # of Clams > 50.8mm	28
% of clams > 50.8mm	32.56%
Total Average Bu./Acre	56.48
Total Avg. Bu./Acre > 50.8mm	37.00
Total standing crop (bu)	169
Total standing crop > 50.8mm	111
% of crop > 50.8mm	65.51%

Conversion Inches to Millimeters
.5" = 12.7 mm
1" = 25.4mm
2" = 50.8 mm
2.5' = 63.5 mm
3" = 76.2 mm
3.5" = 88.9 mm
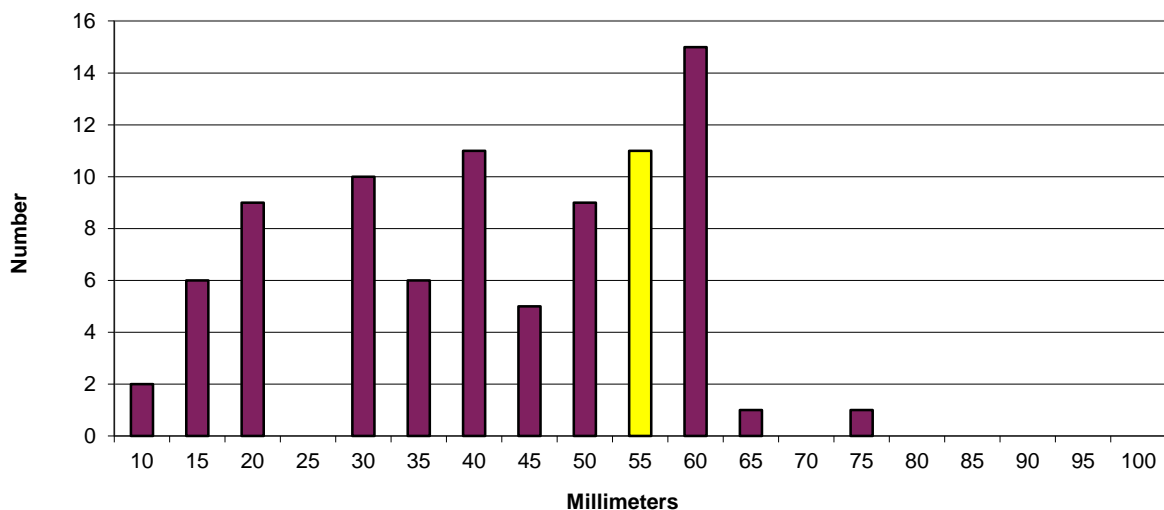
Soft-shell Clam Survey Projections

Flat: Little Diamond   **Area (ac):** 2.0   **Percent Legal:** 61.82%
Town: Harpswell   **Density (bu/a):** 54.04   **Proj. Harvest (bu):** 83
Date: 9/27/2018   **Crop (bu):** 108

Harvest Parameters
    Commercial

Efficiency:	0.70
Effort (d.):	200
Catch (bu):	1.5

    Recreational

Efficiency:	0.35
Effort (d.):	12
Catch (bu):	0.25

Commercial Licenses: 0
-or-
Recreational Licenses: 10

LICENSE NUMBERS FORMULA*

No. of License = (Projected Harvest x Digger Efficiency) / (Effort in Days x Average Catch in Bushels)

Projected Harvest = Legal Clam Bushels + (Sublegal Clam Bushels x Rate of Entry)

Rate of Entry = Survival Rate x Yearly Proportion of Sublegals Reaching Legal Size

Estimated Survival Rate = 80%

Estimated Yearly Proportion Of Sublegals Reaching Legal Size = 50%

Developed by Chris Heinig of MER Associates

Survey Results

TOWN: Harpswell
FLAT: Little Diamond
CREW: Steve Welsh / Ray McIntire

DATE: 9/27/18

PLOT SIZE: 1' x 2'
PLOT INTERVAL: 100'
PLOTS: 15

ACRES: 2

Length (mm)	# of Clams	% Number
10-14	12	13.0%
15-19	3	3.3%
20-24	9	9.8%
25-29	5	5.4%
30-34	6	6.5%
35-39	18	19.6%
40-44	13	14.1%
45-49	1	1.1%
50-54	4	4.3%
55-59	11	12.0%
60-64	4	4.3%
65-69	6	6.5%
70-74	0	0.0%
75-79	0	0.0%
80-84	0	0.0%
85-89	0	0.0%
90-94	0	0.0%
95-99	0	0.0%
100	0	0.0%

Total # of Clams	92
Total # of Clams > 50.8mm	21
% of clams > 50.8mm	22.83%
Total Average Bu./Acre	54.04
Total Avg. Bu./Acre > 50.8mm	33.41
Total standing crop (bu)	108
Total standing crop > 50.8mm	67
% of crop > 50.8mm	61.82%

Conversion Inches to Millimeters
.5" = 12.7 mm
1" = 25.4mm
2" = 50.8 mm
2.5' = 63.5 mm
3" = 76.2 mm
3.5" = 88.9 mm
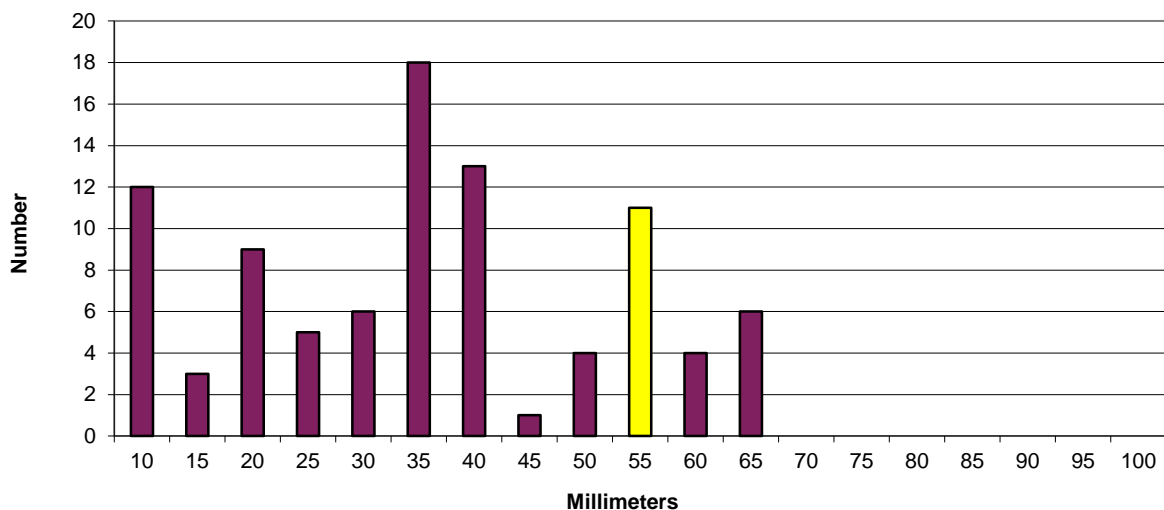
Soft-shell Clam Survey Projections

Flat: Mill Cove	**Area (ac):** 33.0	**Percent Legal:** 35.18%
Town: Harpswell	**Density (bu/a):** 37.05	**Proj. Harvest (bu):** 747
Date: 10/31/2018	**Crop (bu):** 1,223	

Harvest Parameters
Commercial

Efficiency:	0.70
Effort (d.):	200
Catch (bu):	1.5

Recreational

Efficiency:	0.33
Effort (d.):	12
Catch (bu):	0.25

Commercial Licenses:	2
-or-	
Recreational Licenses:	82

LICENSE NUMBERS FORMULA*

No. of License = (Projected Harvest x Digger Efficiency) / (Effort in Days x Average Catch in Bushels)

Projected Harvest = Legal Clam Bushels + (Sublegal Clam Bushels x Rate of Entry)

Rate of Entry = Survival Rate x Yearly Proportion of Sublegals Reaching Legal Size

Estimated Survival Rate = 80%

Estimated Yearly Proportion Of Sublegals Reaching Legal Size = 50%

Developed by Chris Heinig of MER Associates

Survey Results

TOWN: Harpswell

FLAT: Mill Cove / High Head

CREW: Steve Welsh / Ray McIntire

DATE: 10/31/18

PLOT SIZE: 1' x 2'

PLOT INTERVAL: 100'

PLOTS: 70

ACRES: 30

Length (mm)	# of Clams	% Number
10-14	0	0.0%
15-19	2	0.9%
20-24	0	0.0%
25-29	4	1.8%
30-34	21	9.2%
35-39	54	23.7%
40-44	24	10.5%
45-49	47	20.6%
50-54	42	18.4%
55-59	11	4.8%
60-64	11	4.8%
65-69	9	3.9%
70-74	1	0.4%
75-79	1	0.4%
80-84	1	0.4%
85-89	0	0.0%
90-94	0	0.0%
95-99	0	0.0%
100	0	0.0%

Total # of Clams	228
Total # of Clams > 50.8mm	34
% of clams > 50.8mm	14.91%
Total Average Bu./Acre	37.05
Total Avg. Bu./Acre > 50.8mm	13.03
Total standing crop (bu)	1223
Total standing crop > 50.8mm	430
% of crop > 50.8mm	35.18%

Conversion Inches to Millimeters

.5" = 12.7 mm

1" = 25.4mm

2" = 50.8 mm

2.5' = 63.5 mm

3" = 76.2 mm

3.5" = 88.9 mm
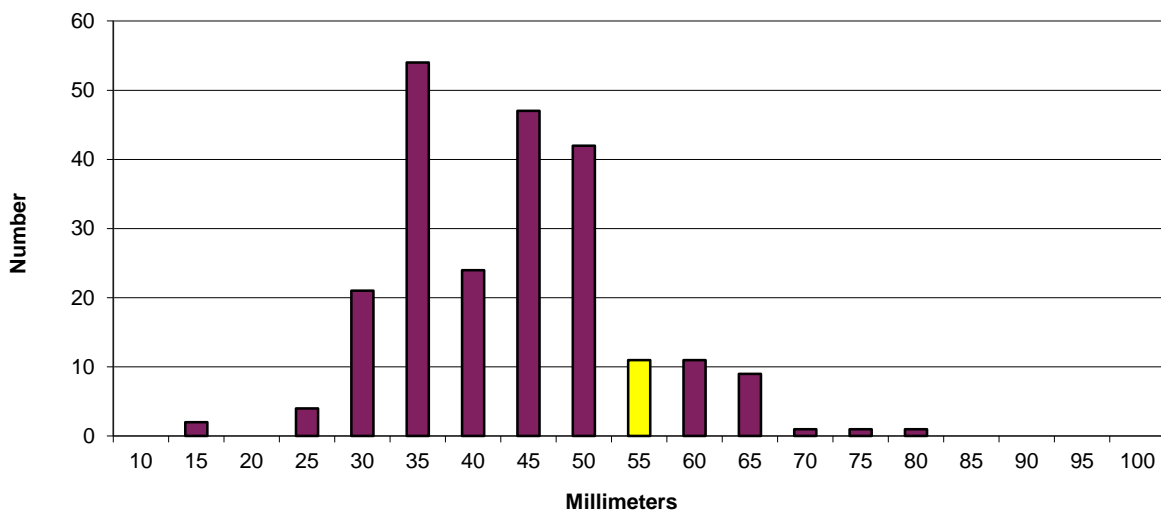
Soft-shell Clam Survey Projections

Flat: Morgan Cove	**Area (ac):** 3.0	**Percent Legal:** 52.11%
Town: Harpswell	**Density (bu/a):** 45.06	**Proj. Harvest (bu):** 96
Date: 9/12/2018	**Crop (bu):** 135	

Harvest Parameters
Commercial

Efficiency:	0.70
Effort (d.):	200
Catch (bu):	1.5

Recreational

Efficiency:	0.33
Effort (d.):	12
Catch (bu):	0.25

Commercial Licenses:	0
-or-	
Recreational Licenses:	11

LICENSE NUMBERS FORMULA*

No. of License = (Projected Harvest x Digger Efficiency) / (Effort in Days x Average Catch in Bushels)

Projected Harvest = Legal Clam Bushels + (Sublegal Clam Bushels x Rate of Entry)

Rate of Entry = Survival Rate x Yearly Proportion of Sublegals Reaching Legal Size

Estimated Survival Rate = 80%

Estimated Yearly Proportion Of Sublegals Reaching Legal Size = 50%

Developed by Chris Heinig of MER Associates

Survey Results

TOWN: Harpswell

FLAT: Morgan Cove

CREW: Steve Welsh / Ray McIntire

DATE: 9/12/18

PLOT SIZE: 1' x 2'

PLOT INTERVAL: 100'

PLOTS: 21

ACRES: 3

Length (mm)	# of Clams	% Number
10-14	14	10.9%
15-19	0	0.0%
20-24	12	9.3%
25-29	24	18.6%
30-34	20	15.5%
35-39	9	7.0%
40-44	15	11.6%
45-49	9	7.0%
50-54	4	3.1%
55-59	14	10.9%
60-64	7	5.4%
65-69	0	0.0%
70-74	0	0.0%
75-79	1	0.8%
80-84	0	0.0%
85-89	0	0.0%
90-94	0	0.0%
95-99	0	0.0%
100	0	0.0%

Total # of Clams	129
Total # of Clams > 50.8mm	22
% of clams > 50.8mm	17.05%
Total Average Bu./Acre	45.06
Total Avg. Bu./Acre > 50.8mm	23.48
Total standing crop (bu)	135
Total standing crop > 50.8mm	70
% of crop > 50.8mm	52.11%

Conversion Inches to Millimeters

.5" = 12.7 mm

1" = 25.4mm

2" = 50.8 mm

2.5' = 63.5 mm

3" = 76.2 mm

3.5" = 88.9 mm
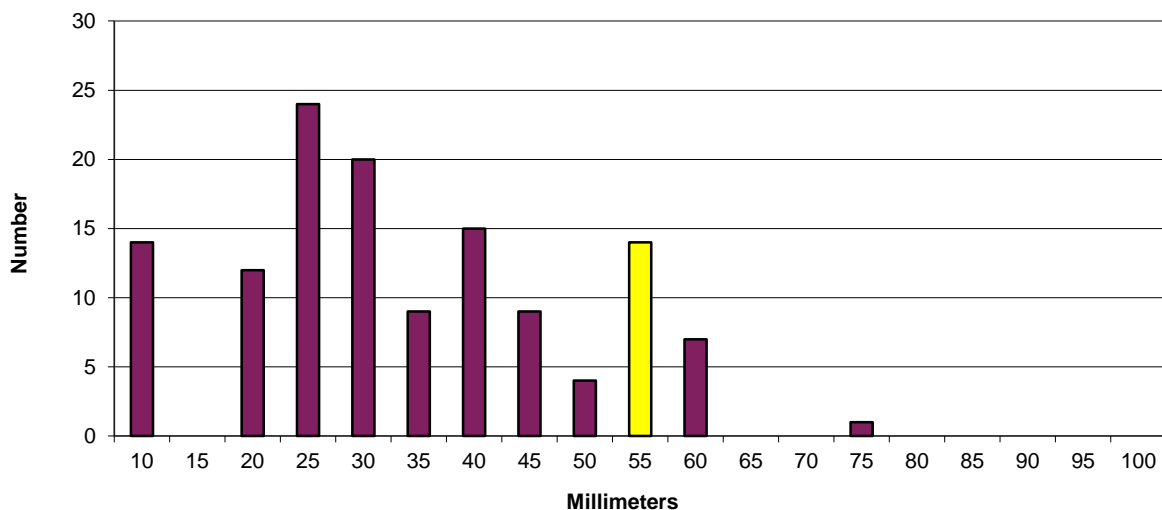
2004 Survey

Soft-shell Clam Survey Projections

Flat:	Nubble	**Area (ac):**	12.0	**Percent Legal:**	66.41%
Town:	Harpswell	**Density (bu/a):**	36.40	**Proj. Harvest (bu):**	349
Date:	10/16/2018	**Crop (bu):**	437		

Harvest Parameters

    Commercial

Efficiency:	0.70
Effort (d.):	200
Catch (bu):	1.5

    Recreational

Efficiency:	0.33
Effort (d.):	12
Catch (bu):	0.25

Commercial Licenses:	1
-or-	
Recreational Licenses:	38

LICENSE NUMBERS FORMULA*

No. of License = (Projected Harvest x Digger Efficiency) / (Effort in Days x Average Catch in Bushels)

Projected Harvest = Legal Clam Bushels + (Sublegal Clam Bushels x Rate of Entry)

Rate of Entry = Survival Rate x Yearly Proportion of Sublegals Reaching Legal Size

Estimated Survival Rate = 80%

Estimated Yearly Proportion Of Sublegals Reaching Legal Size = 50%

Developed by Chris Heinig of MER Associates

Survey Results

TOWN: Harpswell
FLAT: The Nubble
CREW: Steve Welsh / Paul Plummer

DATE: 10/16/18

PLOT SIZE: 1' x 2'
PLOT INTERVAL: 100'
PLOTS: 36

ACRES: 12

Length (mm)	# of Clams	% Number
10-14	0	0.0%
15-19	0	0.0%
20-24	2	2.7%
25-29	1	1.4%
30-34	3	4.1%
35-39	4	5.4%
40-44	8	10.8%
45-49	18	24.3%
50-54	10	13.5%
55-59	9	12.2%
60-64	3	4.1%
65-69	8	10.8%
70-74	3	4.1%
75-79	3	4.1%
80-84	2	2.7%
85-89	0	0.0%
90-94	0	0.0%
95-99	0	0.0%
100	0	0.0%

Total # of Clams	74
Total # of Clams > 50.8mm	28
% of clams > 50.8mm	37.84%
Total Average Bu./Acre	36.40
Total Avg. Bu./Acre > 50.8mm	24.17
Total standing crop (bu)	437
Total standing crop > 50.8mm	290
% of crop > 50.8mm	66.41%

Conversion Inches to Millimeters

.5" = 12.7 mm
1" = 25.4mm
2" = 50.8 mm
2.5' = 63.5 mm
3" = 76.2 mm
3.5" = 88.9 mm
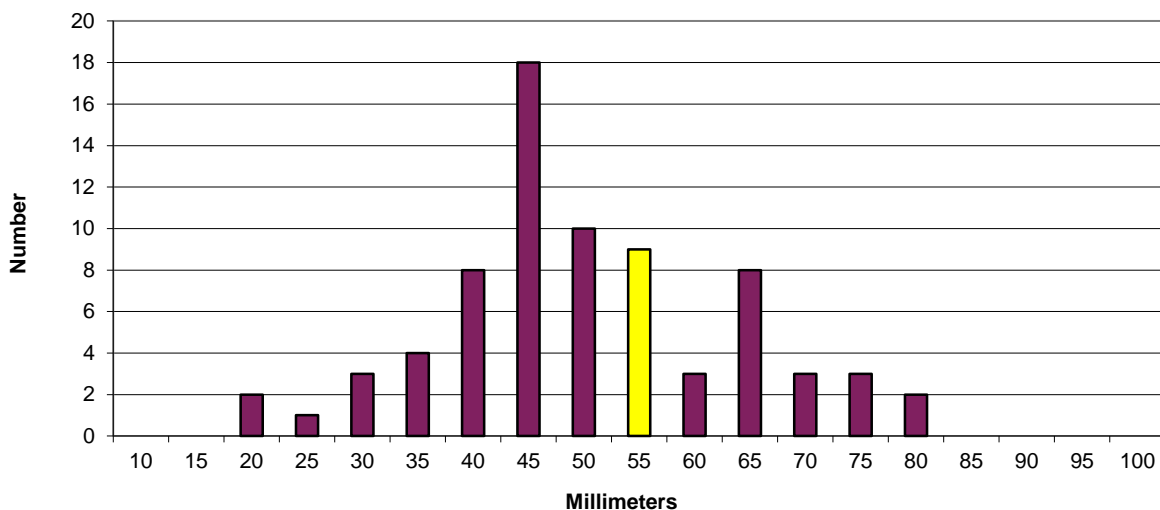
Soft-shell Clam Survey Projections

Flat: Pennellville	**Area (ac):** 5.0	**Percent Legal:** 21.44%
Town: Harpswell	**Density (bu/a):** 34.43	**Proj. Harvest (bu):** 91
Date: 8/16/2018	**Crop (bu):** 172	

Harvest Parameters
Commercial

Efficiency:	0.70
Effort (d.):	200
Catch (bu):	1.5

Recreational

Efficiency:	0.35
Effort (d.):	12
Catch (bu):	0.25

Commercial Licenses:	0
-or-	
Recreational Licenses:	11

LICENSE NUMBERS FORMULA*

No. of License = (Projected Harvest x Digger Efficiency) / (Effort in Days x Average Catch in Bushels)

Projected Harvest = Legal Clam Bushels + (Sublegal Clam Bushels x Rate of Entry)

Rate of Entry = Survival Rate x Yearly Proportion of Sublegals Reaching Legal Size

Estimated Survival Rate = 80%

Estimated Yearly Proportion Of Sublegals Reaching Legal Size = 50%

Developed by Chris Heinig of MER Associates

Survey Results

TOWN: Harpswell
FLAT: Pennellville
CREW: Steve Welsh / Ray McIntire

DATE: 8/16/18

PLOT SIZE: 1' x 2'
PLOT INTERVAL: 100'
PLOTS: 35

ACRES: 5

Length (mm)	# of Clams	% Number
10-14	0	0.0%
15-19	3	1.3%
20-24	96	40.5%
25-29	0	0.0%
30-34	67	28.3%
35-39	0	0.0%
40-44	38	16.0%
45-49	0	0.0%
50-54	22	9.3%
55-59	5	2.1%
60-64	5	2.1%
65-69	0	0.0%
70-74	1	0.4%
75-79	0	0.0%
80-84	0	0.0%
85-89	0	0.0%
90-94	0	0.0%
95-99	0	0.0%
100	0	0.0%

Total # of Clams	237
Total # of Clams > 50.8mm	11
% of clams > 50.8mm	4.64%
Total Average Bu./Acre	34.43
Total Avg. Bu./Acre > 50.8mm	7.38
Total standing crop (bu)	172
Total standing crop > 50.8mm	37
% of crop > 50.8mm	21.44%

Conversion Inches to Millimeters
.5" = 12.7 mm
1" = 25.4mm
2" = 50.8 mm
2.5' = 63.5 mm
3" = 76.2 mm
3.5" = 88.9 mm
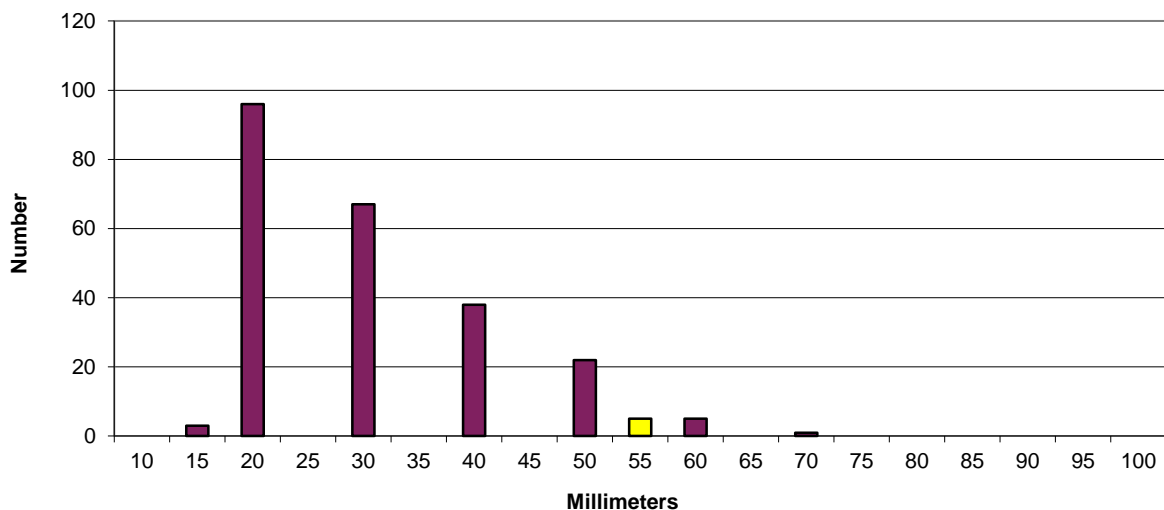
Soft-shell Clam Survey Projections

Flat: Scrag island	**Area (ac):** 16.0	**Percent Legal:**	32.07%
Town: Harpswell	**Density (bu/a):** 58.19	**Proj. Harvest (bu):**	552
Date: 15-Aug	**Crop (bu):** 931		

Harvest Parameters
    Commercial

Efficiency:	0.70
Effort (d.):	200
Catch (bu):	1.5

    Recreational

Efficiency:	0.33
Effort (d.):	12
Catch (bu):	0.25

Commercial Licenses:	1
-or-	
Recreational Licenses:	61

LICENSE NUMBERS FORMULA*

No. of License = (Projected Harvest x Digger Efficiency) / (Effort in Days x Average Catch in Bushels)

Projected Harvest = Legal Clam Bushels + (Sublegal Clam Bushels x Rate of Entry)

Rate of Entry = Survival Rate x Yearly Proportion of Sublegals Reaching Legal Size

Estimated Survival Rate = 80%

Estimated Yearly Proportion Of Sublegals Reaching Legal Size = 50%

Developed by Chris Heinig of MER Associates

Survey Results

TOWN: Harpswell
FLAT: Scrag Island
CREW: Steve Welsh / Ray McIntire

DATE: 8/15/18

PLOT SIZE: 1' x 2'
PLOT INTERVAL: 100'
40

ACRES: 16

Length (mm)	# of Clams	% Number
10-14	47	16.1%
15-19	8	2.7%
20-24	33	11.3%
25-29	11	3.8%
30-34	27	9.2%
35-39	17	5.8%
40-44	42	14.4%
45-49	41	14.0%
50-54	38	13.0%
55-59	8	2.7%
60-64	10	3.4%
65-69	5	1.7%
70-74	5	1.7%
75-79	0	0.0%
80-84	0	0.0%
85-89	0	0.0%
90-94	0	0.0%
95-99	0	0.0%
100	0	0.0%

Total # of Clams	292
Total # of Clams > 50.8mm	28
% of clams > 50.8mm	9.59%
Total Average Bu./Acre	58.19
Total Avg. Bu./Acre > 50.8mm	18.66
Total standing crop (bu)	931
Total standing crop > 50.8mm	299
% of crop > 50.8mm	32.07%

Conversion Inches to Millimeters
.5" = 12.7 mm
1" = 25.4mm
2" = 50.8 mm
2.5' = 63.5 mm
3" = 76.2 mm
3.5" = 88.9 mm
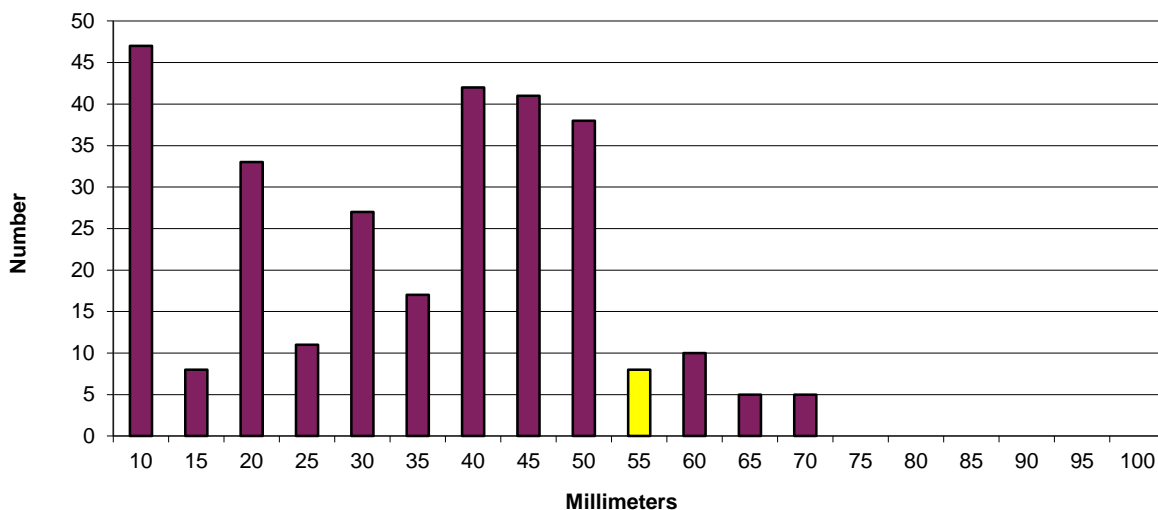
Soft-shell Clam Survey Projections

Flat: Spruce Cove	**Area (ac):** 10.0	**Percent Legal:** 32.31%
Town: Harpswell	**Density (bu/a):** 72.01	**Proj. Harvest (bu):** 428
Date: 9/12/2018	**Crop (bu):** 720	

Harvest Parameters
    Commercial

Efficiency:	0.70
Effort (d.):	200
Catch (bu):	1.5

    Recreational

Efficiency:	0.33
Effort (d.):	12
Catch (bu):	0.25

Commercial Licenses: 1
-or-
Recreational Licenses: 47

LICENSE NUMBERS FORMULA*

No. of License = (Projected Harvest x Digger Efficiency) / (Effort in Days x Average Catch in Bushels)

Projected Harvest = Legal Clam Bushels + (Sublegal Clam Bushels x Rate of Entry)

Rate of Entry = Survival Rate x Yearly Proportion of Sublegals Reaching Legal Size

Estimated Survival Rate = 80%

Estimated Yearly Proportion Of Sublegals Reaching Legal Size = 50%

Developed by Chris Heinig of MER Associates

Survey Results

TOWN: Harpswell

FLAT: Spruce Cove

CREW: Steve Welsh / Ray McIntire

DATE: 9/12/18

PLOT SIZE: 1' x 2'

PLOT INTERVAL: 100'

PLOTS: 34

ACRES: 10

Length (mm)	# of Clams	% Number
10-14	10	3.7%
15-19	0	0.0%
20-24	18	6.6%
25-29	19	7.0%
30-34	40	14.7%
35-39	47	17.3%
40-44	39	14.3%
45-49	31	11.4%
50-54	39	14.3%
55-59	18	6.6%
60-64	2	0.7%
65-69	4	1.5%
70-74	1	0.4%
75-79	0	0.0%
80-84	4	1.5%
85-89	0	0.0%
90-94	0	0.0%
95-99	0	0.0%
100	0	0.0%

Total # of Clams	272
Total # of Clams > 50.8mm	29
% of clams > 50.8mm	10.66%
Total Average Bu./Acre	72.01
Total Avg. Bu./Acre > 50.8mm	23.27
Total standing crop (bu)	720
Total standing crop > 50.8mm	233
% of crop > 50.8mm	32.31%

Conversion Inches to Millimeters

.5" = 12.7 mm

1" = 25.4mm

2" = 50.8 mm

2.5' = 63.5 mm

3" = 76.2 mm

3.5" = 88.9 mm
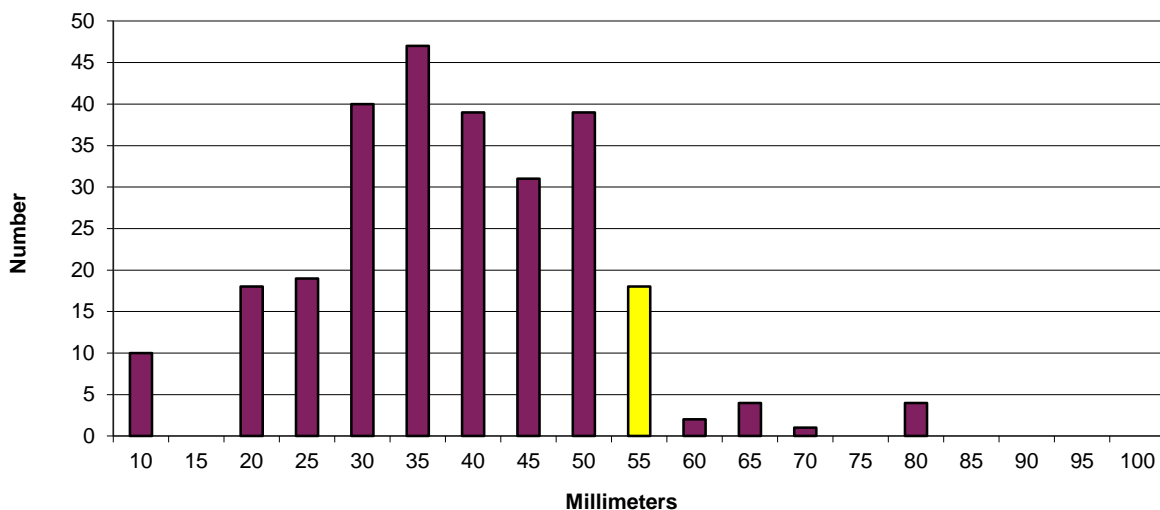
Soft-shell Clam Survey Projections

Flat: Walini Cove	**Area (ac):** 4.0	**Percent Legal:** 58.91%
Town: Harpswell	**Density (bu/a):** 213.83	**Proj. Harvest (bu):** 644
Date: 8/21/2018	**Crop (bu):** 855	

Harvest Parameters

Commercial

Efficiency:	0.70
Effort (d.):	200
Catch (bu):	1.5

Recreational

Efficiency:	0.33
Effort (d.):	12
Catch (bu):	0.25

Commercial Licenses: 2

-or-

Recreational Licenses: 71

LICENSE NUMBERS FORMULA*

No. of License = (Projected Harvest x Digger Efficiency) / (Effort in Days x Average Catch in Bushels)

Projected Harvest = Legal Clam Bushels + (Sublegal Clam Bushels x Rate of Entry)

Rate of Entry = Survival Rate x Yearly Proportion of Sublegals Reaching Legal Size

Estimated Survival Rate = 80%

Estimated Yearly Proportion Of Sublegals Reaching Legal Size = 50%

Developed by Chris Heinig of MER Associates

Survey Results

TOWN: Harpswell
FLAT: Walini Cove
CREW: Steve Welsh / Ray McIntire

DATE: 8/21/18

PLOT SIZE: 1' x 2'
PLOT INTERVAL: 100'
PLOTS: 18

ACRES: 4

Length (mm)	# of Clams	% Number
10-14	7	1.7%
15-19	6	1.4%
20-24	61	14.7%
25-29	86	20.7%
30-34	54	13.0%
35-39	37	8.9%
40-44	10	2.4%
45-49	43	10.4%
50-54	28	6.7%
55-59	44	10.6%
60-64	10	2.4%
65-69	10	2.4%
70-74	13	3.1%
75-79	1	0.2%
80-84	3	0.7%
85-89	1	0.2%
90-94	1	0.2%
95-99	0	0.0%
100	0	0.0%

Total # of Clams	415
Total # of Clams > 50.8mm	83
% of clams > 50.8mm	20.00%
Total Average Bu./Acre	213.83
Total Avg. Bu./Acre > 50.8mm	125.97
Total standing crop (bu)	855
Total standing crop > 50.8mm	504
% of crop > 50.8mm	58.91%

Conversion Inches to Millimeters
.5" = 12.7 mm
1" = 25.4mm
2" = 50.8 mm
2.5' = 63.5 mm
3" = 76.2 mm
3.5" = 88.9 mm
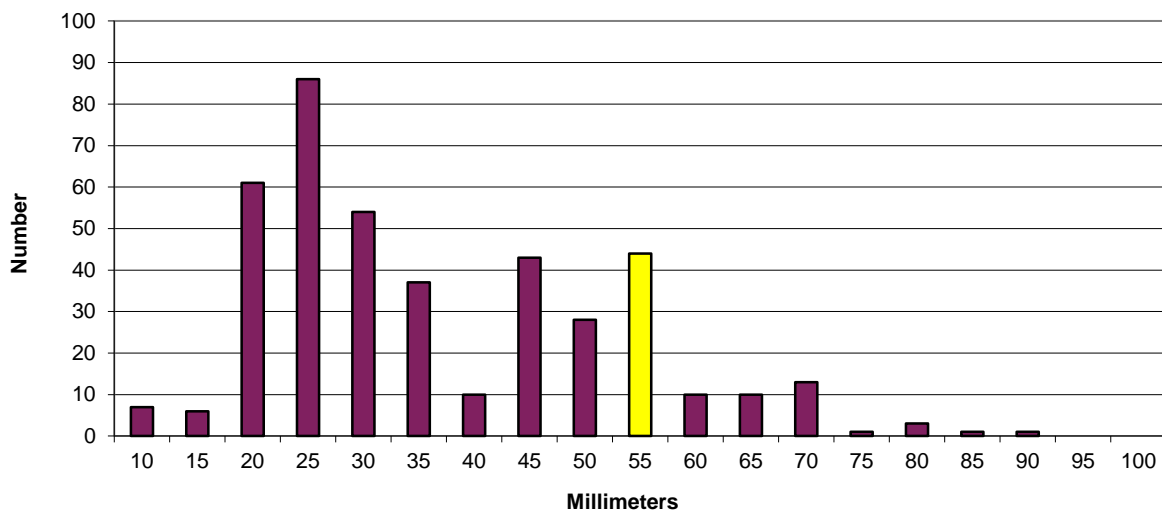
2004 Survey

Soft-shell Clam Survey Projections

Flat: Widgeon Cove   **Area (ac):** 26.0   **Percent Legal:** 44.81%
Town: Harpswell   **Density (bu/a):** 84.83   **Proj. Harvest (bu):** 1,475
Date: 10/30/2018   **Crop (bu):** 2,206

Harvest Parameters
    Commercial

Efficiency:	0.70
Effort (d.):	200
Catch (bu):	1.5

    Recreational

Efficiency:	0.33
Effort (d.):	8
Catch (bu):	0.25

Commercial Licenses: 3
    -or-
Recreational Licenses: 243

LICENSE NUMBERS FORMULA*

No. of License = (Projected Harvest x Digger Efficiency) / (Effort in Days x Average Catch in Bushels)

Projected Harvest = Legal Clam Bushels + (Sublegal Clam Bushels x Rate of Entry)

Rate of Entry = Survival Rate x Yearly Proportion of Sublegals Reaching Legal Size

Estimated Survival Rate = 80%

Estimated Yearly Proportion Of Sublegals Reaching Legal Size = 50%

Developed by Chris Heinig of MER Associates

Survey Results

TOWN: Harpswell
FLAT: Widgeon Cove
CREW: Steve Welsh / Ray McIntire

DATE: 10/30/18

PLOT SIZE: 1' x 2'
PLOT INTERVAL: 100'
PLOTS: 70

ACRES: 26

Length (mm)	# of Clams	% Number
10-14	37	7.2%
15-19	0	0.0%
20-24	47	9.2%
25-29	0	0.0%
30-34	72	14.1%
35-39	0	0.0%
40-44	117	22.9%
45-49	0	0.0%
50-54	141	27.6%
55-59	0	0.0%
60-64	77	15.1%
65-69	0	0.0%
70-74	20	3.9%
75-79	0	0.0%
80-84	0	0.0%
85-89	0	0.0%
90-94	0	0.0%
95-99	0	0.0%
100	0	0.0%

Total # of Clams	511
Total # of Clams > 50.8mm	97
% of clams > 50.8mm	18.98%
Total Average Bu./Acre	84.83
Total Avg. Bu./Acre > 50.8mm	38.01
Total standing crop (bu)	2206
Total standing crop > 50.8mm	988
% of crop > 50.8mm	44.81%

Conversion Inches to Millimeters
.5" = 12.7 mm
1" = 25.4mm
2" = 50.8 mm
2.5' = 63.5 mm
3" = 76.2 mm
3.5" = 88.9 mm